

UNIVERSITY OF LONDON KING'S COLLEGE.

From The Wheatstone Professor of Physics,

TEMPLE BAR 5651
(6 LINES).

J. T. RANDALL, F.R.S.

STRAND. W.C. 2.

Dr. R. Franklin,
12 quai Henri IV,
Paris IV.

4th December, 1950

Dear Dr. Franklin,

I am sorry I have taken so long to reply to your letter of November 24th. The real difficulty has been that the X-ray work here is in a somewhat fluid state and the slant on the research has changed rather since you were last yere.

After very careful consideration and discussion with the senior people concerned, it now seems that it would be a good deal more important for you to investigate the structure of certain biological fibres in which we are interested, both by low and high angle diffraction, rather than to continue with the original project of work on solutions as the major one.

Dr. Stokes, as I have long inferred, really wishes to concern himself almost entirely with theoretical problems in the future and these will not necessarily be confined to X-ray optics. It will probably involve microscopy in general. This means that as far as the experimental X-ray effort is concerned there will be at the moment only yourself and Gosling, together with the temporary assistance of a graduate from Syracuse, Mrs. Heller. Gosling, working in conjunction with Wilkins, has already found that fibres of desoxyribose nucleic acid derived from material provided by Professor Signer of Bern gives remarkably good fibre diagrams. The fibres are strongly negatively birefringent and become positive on stretching, and are reversible in a moist atmosphere. As you no doubt know, nucleic acid is an extremely important constituent of cells and it seems to us that it would be very valuable if this could be followed up in detail. If you are agreeable to this change of plan it would seem that there is no necessity immediately to design a camera for work on solutions. The camera will, however, be extremely valuable in searching for large spacings from such fibres.

I hope you will understand that I am not in this way suggesting that we should give up all thought of work on solutions, but we do feel that the work on fibres would be more immediately profitable and, perhaps, fundamental.

I think I must leave to you the question as to whether you come over here for a day or two to discuss these matters further. It now seems so near to the time when you will actually be working here that it is

perhaps hardly necessary for you to make the special journey. On the other hand there may be things which you could organize on the apparatus side in Paris and you could hardly do this without further discussion with us. The change of programme, such as I have suggested, will probably mean that we should obtain the formal consent of the Fellowship Committee; there is no hurry about this and there is no doubt about the answer.

Dr. Price has just heard from Mr. Heins of the Rockefeller Foundation that orders have now been placed for your apparatus.

Yours sincerely,

J. N. Randall